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The role of state-owned commercial forests and firm features in nature-based tourism business performance

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Highlights

- State-owned commercial forests provide an important part of nature-based tourism enterprises' service scope.
- Increase in turnover during five years vary depending on provided services.
- Entrepreneurial attitude associates with willingness to participate in a landscape and recreational value trading scheme.
- Increasing international demand for nature-based tourism promotes business possibilities, needs attention to forest environments and smooth co-operation between actors.

Abstract

Nature-based tourism (NBT) is a growing industry within regions rich in natural amenities worldwide. An important feature of NBT business is the dependence on the quality of surrounding environment. This paper addresses the role of the management of commercial forests owned by the state in Finnish Lapland. The paper explores the NBT entrepreneurs' willingness to participate in a proposed new landscape and recreational value trading (LRVT) and elaborates the effect of entrepreneur and enterprise characteristics, such as entrepreneurial attitude, venture size, and a variety of services offered to customers, on the experienced and expected growth of NBT enterprise. The survey data on NBT enterprises were analyzed with ordered and binary logit models. The willingness of enterprises to participate in LRVT depended on the venture size, entrepreneurial attitude, and type of activities offered to customers. The results show that relatively young and small-sized enterprises have faced difficulties in developing their business. Entrepreneurial experience, risk-taking and intention to develop new business associate positively with expected increase in turnover.

Keywords business performance; entrepreneurial attitude; forest-based tourism business; forest management practices; landscape trading; recreational value trading

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1 Introduction

Nordic nature provides an attractive environment for leisure activities and experiences, and thus also an operational environment for nature-based tourism businesses. The environmental features of Nordic countries vary greatly from the agricultural south to the arctic north, and provide a platform for a large variety of tourism services and business opportunities. Nature-based tourism (NBT), in its various forms, is an increasingly acknowledged and expanding sector within tourism industry in the Nordic countries and across Europe (Bell et al. 2008; Fredman and Tyrväinen 2010; Yachin 2019).

In Finland, Sweden and Norway, forests are an important part of natural landscapes. In these countries, tourism business based on forests and other types of nature are included in current bio-economy and tourism strategies. Decisions on less intensive forest management practices that enhance the quality of forest environment for recreation and tourism may support forest-based livelihoods and the growth of different economic sectors in the areas with rich natural resources. The growth prospects of the sector rely strongly on novel business ideas and increasing numbers of foreign visitors from other parts of Europe and elsewhere (Tyrväinen et al. 2017a). The growing urban population, social and demographic changes and changing lifestyles create a demand for various tourism and leisure activities in nature (Fredman and Tyrväinen 2010; Konu et al. 2017). The wide NBT concept covers activities that people take part in while on holiday, focusing on engagement with nature (Fredman et al. 2009). Tourism trips usually include an overnight stay. The high seasons include Christmas time, winter holidays, Easter, summer and autumn seasons.

Nature-based tourists typically look for beautiful, natural looking, authentic natural environments and nature experiences (Tyrväinen et al. 2001, 2017b; Uusitalo 2017). The environment and its changes affect the tourism industry and tourists' personal experiences (Margaryan 2016). For instance, forests are used for NBT activities such as hiking, cross-country skiing, and husky safaris, and the quality of the environment depends on forest management. Forestry has significant impacts on the visual and recreational quality of forest landscapes (Gundersen and Frivold 2008; Ribe 2009), and the need to take tourists' environmental expectations into account more in the management of commercial forests is increasingly under discussion (Tyrväinen et al. 2014a, 2017b). Being able to use attractive nature areas is essential for the NBT business, thus making entrepreneurs highly dependent on support from other stakeholders such as landowners, the public sector and local communities (Fredman and Tyrväinen 2010).

In Finland, a contractual arrangement called the landscape and recreational values trading (LRVT) scheme, tailored locally by the users (e.g., tourists/tourism entrepreneurs) and the providers (forest owners of forests) of forests has been proposed (Temisevä et al. 2008; Tyrväinen et al. 2014b). In this approach, forest owners would be compensated for enhancing the landscape and the recreational values of specific sites in their forests. Funds for compensating these measures would be collected from the visitors and/or tourism entrepreneurs using the area. The preconditions, demand and supply for launching such a new, market-based mechanism have been studied regarding privately owned forests: Tyrväinen et al. (2014b) and Mäntymaa et al. (2018a) examined visitors' attitudes and willingness to pay for better quality of the environment, and Mäntymaa et al. (2018b) studied forest owners' attitudes to and compensation claims for the suggested payment mechanism. The attitudes of tourism entrepreneurs and their willingness to contribute to funding, however, have not been previously studied on state owned lands. Moreover, little is known about how tourism enterprises perceive the importance of forests in business and how the use and availability of forests affect the business success and growth of nature-based enterprises.

Besides high dependency on the quality of nature, firm features play a role in NBT business. NBT enterprises are quite heterogeneous in terms of their size, skills and motivations (Lundberg

and Fredman 2012; Petäjistö and Selby 2012) and the enterprises also vary considerably regarding their services, operating environments and infrastructure (Margaryan 2016; Margaryan and Fredman 2017; Konu et al. 2017). These factors significantly affect the profitability and growth potential of these firms, but they also influence what the firms consider strategically desirable. In addition, firms' knowledge about new products and innovative business models needs to be developed and shared across the NBT sector to increase the level of professionalization in the industry, since NBT entrepreneurship is highly knowledge driven (Løseth 2014).

NBT business is typically run by micro-enterprises that consist of only one entrepreneur or a few employees. A micro-enterprise is defined as a firm that employs fewer than 10 persons and whose annual turnover or annual balance sheet total does not exceed €2 million (European Commission 2003). The small size increases the importance of entrepreneurship in business development and success, including aspects such as the entrepreneurs' experience and entrepreneurial attitudes. While these have been examined to some extent (Ateljevic and Doorne 2000; Shaw and Williams 2004; Petäjistö and Selby 2012; Lundberg et al. 2014), only a few quantitative studies exist on how the characteristics of entrepreneurs and enterprises affect business success in the NBT enterprises (e.g., Nybakk and Hansen 2008; Hallak et al. 2012).

This study contributes to the forest-based tourism literature by aiming to provide new knowledge on the factors (i.e., firm features and the state-owned commercial forests) that explain the performance of NBT enterprises and the nature-based tourism enterprises' willingness to participate in the suggested payment mechanism for ecosystem services (PES), i.e. the landscape and recreational values trading (LRVT) scheme in northern Finland. We conduct an explorative firm-level analysis to investigate, using a standard statistical procedure, how the heterogeneity of the NBT enterprises in terms of the characteristics of enterprises (e.g., size, bundle of services offered) and of entrepreneurs (e.g. entrepreneurial attitude, entrepreneurial experience) as well as the extent to which nature-based tourism enterprises use state-owned commercial forests in their business are associated with the growth of turnover and willingness to participate in LRVT.

The rest of the paper is structured as follows: the next section provides the review of previous literature on NBT and entrepreneurship. The third section describes the study area, methods and materials, and the fourth section presents our results. The final section discusses our findings and presents our conclusions.

2 Background and literature review

2.1 Forests as an operational environment and their quality

The term "environment" is commonly used to describe the business environment (Gartner 1985). Business environment factors may be, for example, venture capital availability; the involvement of experienced entrepreneurs; the accessibility of suppliers, customers or new markets; favourable government policies and other facilities; support services; a receptive population; the availability of land; reasonably priced labour; and low prices of inputs, as reviewed by Lerner and Haber (2001).

For the NBT industry specifically, an especially important environmental factor is the quality of the physical environment, such as the quality of the forest landscape. As Nordic countries have free access to undeveloped lands, NBT takes places not only in protected areas but also in commercial forests (Kaltenborn et al. 2001; Sandell and Fredman 2010). In Finland, forests are a typical environment for outdoor recreation and tourism activities, as they cover 82% of the land area, and most are managed for commercial forestry. Protected areas cover 10.6% of the total land area and are mostly located in north-eastern Finland, where almost one third of the land area

is protected. These areas are not open or suitable for all types of outdoor and tourism activities. Moreover, commercial forests are important for companies that are located nearby and offering motorized other safaris for tourists. (Ahtikoski et al. 2011; Tyrväinen et al. 2017a)

Previous NBT studies have largely focused on the customers' preferences regarding holiday activities and the recreational environment. For instance, Hjalager et al. (2017) identified a demand for various rural tourism activities such as nature experiences, and concluded that it is important for the growth of the sector to offer not only new products and services to meet demand, but also memorable experiences. Neuvonen et al. (2010) found that tourists' intentions to revisit a national park correlated with their attachment to the place, which in turn was positively correlated with the satisfaction with services and the quality of the nature environment. In mountain national parks in Northern America, changes in natural characteristics (climate, access to region, scenery) may reduce the perceived attractiveness of the region and have a negative effect on tourism (e.g., Scott 2003; Scott et al. 2007). The management of state-owned commercial forest areas may affect the growth possibilities of the enterprise, especially of those enterprises offering only NBT experiences (Petäjistö and Selby 2012).

The landscape and recreational values trading (LRVT) scheme suggested for privately owned forests (Temisevä et al. 2008; Tyrväinen et al. 2014b) is a contractual arrangement in which the providers of forest amenity services (forest owners) would be compensated for enhancing the landscape and the recreational values of specific sites in their forests. Funds for compensating these measures would be collected from the visitors and/or tourism entrepreneurs using the area. In the contract, specific forest management practices are defined that allow and support the user of the forest to successfully perform its business activities. By taking into account both visitors' willingness to pay and private landowners' perceived costs of provision Mäntymaa et al. (2018a) assessed that the LRVT initiative could be promising in the Ruka-Kuusamo area in northeastern Finland.

2.2 Characteristics of the NBT enterprise and the entrepreneur

In order to explore how the operational environment, such as forest landscape quality impacts on the business performance of an NBT enterprise the features of the venture, for example, the type and number of services offered to customers and the size of the enterprise need to be also taken into account as a fundamental business performance factors. Similarly, it is also important to consider the characteristics of the entrepreneur.

In the tourism industry enterprises are heterogeneous and offer various services, such as accommodation, restaurants, and different attractions and activities, and some enterprises provide more than one type of service. Comparative advantage may be based on either specialization on provision of a service bundle (Schneider and Bowen 1995) or on a single service, such as attraction services, or food and beverage (Akbaba 2012). As for the size of the enterprise, micro-scale and small-scale entrepreneurship is globally typical in NBT business (e.g., Hall and Boyd 2005). The sector is still developing and many NBT enterprises are still at the initial stage of their business (Stensland et al. 2014). Hence, small (start-up) enterprises may grow more than large, old enterprises. The growth, however, is not a necessity for the existence of the small firm (Getz and Carlsen 2005). On the other hand, large enterprises may have a well-established position in the market and may have enough financial resources to develop their business, therefore possibly performing better than small enterprises (Sundbo et al. 2007; Esteve-Pérez and Mañez-Castillejo 2008). In addition, enterprises may seek competitive advantage by using economies of scale (Bamiatzi and Kirchmaier 2014). Since the impact of a venture's features on its growth is theoretically somewhat ambiguous (Kallmuenzer and Peters 2018), it is interesting to empirically explore how the growth of the NBT enterprise is affected by its size and the amount and type of services it offers.

As to entrepreneur characteristics, human capital, including the entrepreneur's experience, education and personal traits is commonly regarded as an important factor of business performance in management literature. However, studies have provided mixed results regarding e.g. the effect of experience on business performance. While among new firms both education and management experience associate positively with performance, indicating the importance of skills when starting new business (e.g., Cooper et al. 1994), other studies report the lack of the role of entrepreneurial experience in venture performance (Hallak et al. 2011) or explain a negative association between experience and performance by the change in goals within operation years (Zahra 1993). Many enterprises have been in business for a long time (i.e. the entrepreneurs have a great deal of experience), and these entrepreneurs may not be growth-oriented but prefer other aspects of performance, such as profitability or preserving the existence of the enterprise.

As to personal traits, entrepreneurial attitude is especially relevant for the knowledge-driven NBT industry and the financial performance of a NBT enterprise (Kallmuenzer and Peters 2018). Two important elements of entrepreneurial attitude are the ability to recognize business opportunities (e.g., Nybakk and Hansen 2008 and references therein), and the ability to take a calculated risk (e.g., Lumpkin and Dess 1996; Lunnan et al. 2006). Hence an entrepreneurial attitude is positively associated with innovativeness, i.e., the eagerness support new ideas and create new processes. For example, among Norwegian NBT enterprises, survey respondents who exhibited a stronger entrepreneurial attitude seemed more likely to change the way they organized their enterprise and tended to have higher income growth (Nybakk and Hansen 2008). In Kallmuenzer and Peters (2018), innovativeness was positively associated with financial performance of rural tourism family firms, but the effect of risk-taking on performance was ambiguous.

In the NBT sector is, however, the role of innovativeness not straightforward as it relates to the motivation for running a business and the growth of NBT enterprises. Some enterprises are growth-oriented with the primary aim of accumulating capital or profit, while others do not exhibit traditional entrepreneurial characteristics. Lifestyle entrepreneurship and the entrepreneurs' positive perception of their current state of business, found as common features in Nordic studies (e.g., Lundmark and Muller 2010; Petäjistö and Selby 2014), are potential reasons limiting the development and growth of the NBT industry. The purpose of lifestyle-oriented entrepreneurs is to enable their selected lifestyle, operate a business closely related to their values, passions, or interests, and to live and work within a selected region. While lifestyle entrepreneurs may lack business planning or growth strategies, or growth may be obstructed by high dependence on natural resources or niche markets (narrowly defined groups of potential customers), even consciously avoided, they are often instrumental in the creation and introduction of innovative products such as new services. (Ateljevic and Doorne 2000; Shaw and Williams 2004; Fredman and Tyrväinen 2010; Lundberg et al. 2014; Peters and Kallmuenzer 2018)

2.3 Measures of concepts

The business success or performance of an enterprise is a multi-dimensional concept that links to heterogeneity in the NBT entrepreneurs' objectives and motivations for running their business. Commonly it has been measured by profit, income, return on investment, return on sales, and return on equity. However, the use of sophisticated financial measures, such as return on investment, can be limited as the majority of NBT enterprises are small and lack a separate financial statement for their business. Moreover, in many cases, no official statistics are available on the NBT sector.

Entrepreneurs may also define their success in relation to non-monetary measures, often based on subjective statements. Examples are family or community responsibilities, experienced level of control, flexibility, or satisfaction with work (Simpson et al. 2004; Haber and Reichel 2005;

Lundberg and Fredman 2012). The use of subjective measures is challenged by a large number of related factors. For instance, Hallak et al. (2012) studied tourism entrepreneurs in Southern Australia and found that their sense of identity connected to the place in which their business operated contributed to their performance.

The success of a business can be also measured in financial terms by growth, i.e. increased volume or business activity (Lundberg et al. 2014). For small firms, Wiklund (1999) suggests using growth as the most important performance measure. In this study, we follow this approach. Although equating performance with growth is an increasingly controversial assumption, and the stated change in turnover is a simple measure for the growth of an enterprise, potentially capturing only short-term effects, we found it impossible to use other, more sophisticated measures for the reasons mentioned above.

Quantifying the quality of physical environment is challenging. Importantly, in this study we did not know the exact location of areas used by NBT enterprises, and therefore, it was not possible to develop a direct measure for quality of forest landscape. Accordingly, we utilize measures including frequency of use of forests and type of business activities conducted in forests to examine the factors affecting the growth of NBT enterprises. While a high usage of forests indicates their good quality, good accessibility and suitability as an operating environment for NBT, another measure is related to the effect on growth of enterprises that may associate with a particular activity.

Another challenging concept to measure is the entrepreneurial attitude. There are several ways to operationalize its interlinked elements, the ability to recognize business opportunities and the ability to take a calculated risk (Schumpeter 1934; Cramer et al. 2002; Lunnan et al. 2006). This study uses entrepreneurs' subjective statements on their willingness to take risks and on their intentions to develop new NBT business activities in the near future as measures for entrepreneurial attitude which allows comparison to previous studies of Lunnan et al. (2006) and Nybakk and Hansen (2008). The use of two measures allows also testing the validity of the subjective measurement. Although the two measures reflect different aspects of entrepreneurial attitude, they are closely linked and should have quite similar role as explanatory variables in the analysis.

3 Material and methods

3.1. Study area

This study focuses on NBT enterprises in Finnish Lapland, an area which provides a good opportunity to study how being able to use forest land, and entrepreneur and enterprise characteristics affect the growth of NBT enterprises and the willingness to participate in the LRVT scheme. In comparison to other parts of the country, in Lapland the NBT industry is well developed as a business and the growth of the tourism sector has been stronger. In many communities, tourism is economically the most important livelihood – especially during winter and spring (Vatanen et al. 2014).

In Finnish Lapland, state-owned forests cover about 55% of forestry land and amount to 3.3 million hectares which includes timber production forests, wilderness areas, national parks, and other protected areas (Metsähallitus 2017). These forests are managed by Metsähallitus, a state-run enterprise that remits the profits from forestry, as well as other business operations, to the government. In addition, it has official public duties, such as the management of conservation areas. To enhance biodiversity and recreational values in timber production forests, Metsähallitus applies less intensive forest management practices in areas used for actively for nature-based than elsewhere in their production forests. For example, when harvesting, buffer zones are left along lakes, rivers and hiking trails to preserve the forested scenery (Juutinen et al. 2014). This multiple-use forestry

approach targets integrating different societal and economic needs into forest management and therefore, a wide range of stakeholders is invited to contribute to the planning process. The management strategy means trade-offs between economic and environmental targets or business sectors. The profits from selling timber at the national level, for example, are estimated to decrease by over ten million euros annually due to the provision of recreational benefits (Kosenius et al. 2013).

These recreation-enhancing management activities are targeted both for local residents and to sustain operational environments for NBT businesses. In order to meet sustainability target in the use of state-owned forests, tourism enterprises are required to make contracts with the state agency to operate on state-owned lands. In Lapland, NBT is the most important economic sector in terms of employment, providing, in 2011, over 4300 person-years and approximately 600 million euros in terms of total direct tourism income per annum (Tourism facts in Lapland 2011). In 2015, the total tourism demand in Lapland amounted to nearly 900 million euros and the number of employed persons was 6000 (Visit Finland 2020). In the southern part of the country, the majority of forest land is under private ownership, and the NBT industry is less developed (Tyrväinen et al. 2014a, 2018).

3.2. Data collection

An online survey targeted NBT enterprises operating in western Finnish Lapland. Due to the lack of official databases on NBT enterprises in Finland, this study utilized Metsähallitus' existing address database. This database is a register of entrepreneurs who have a contract of use with the state agency. It is also used for conducting surveys related to the significance of natural areas for NBT business' and enterprises' satisfaction with the management of state-owned forests (for the north-western part of Finnish Lapland, see Ohenoja (2010)). In October 2012, the enterprises received an invitation letter to participate in the survey. The letter included a brief explanation as to how the enterprises had been identified, and a leaflet with information on the survey and the website address of an online questionnaire. The invitation was sent to 270 enterprises. The final data included 46 usable responses, corresponding to a response rate of 17%. We discuss the representativeness issues of the data in terms of limited statistical information on NBT enterprises in section 5.

The questionnaire was developed in the summer of 2012 in co-operation with experts in the management of the state-owned commercial forests of Metsähallitus. Aiming at improving the internal validity and to control the common method bias and systematic measurement error potentially resulting from the use of self-reported data for all variables, when designing the questionnaire, we enhanced the motivation to answer properly by enhancing desire for self-expression with stating that we need and value their opinion on this issue and by guaranteeing anonymity, by reversing the wording of items, and by paying attention to question order and by separating the items to eliminate proximity effect (Podsakoff et al. 2012).

The first part of the questionnaire was dedicated to the respondents' socio-economic characteristics and business experience. The second part explored the characteristics of the enterprise and the respondents' attitudes toward entrepreneurship and business. The respondents were asked to state the experienced growth during the previous five years, the services provided and the expected growth over the next five years, followed by the statements related to the entrepreneurial attitude. The third part contained questions regarding the operational environment and the roles of the natural environment and state-owned forests in the business, including the use of nature areas under high and low seasons and the activities offered to customers. The final part of the survey explored the respondents' attitudes toward the management of state-owned forests and their willingness to participate in a new payment mechanism to enhance recreational benefits from the state-owned timber production forests. In the LRV scheme, NBT enterprises would pay Metsähallitus for

specific management activities in state-owned commercial forests which support NBT business in the considered area, for example, for maintaining and enhancing landscape and recreational values in state-owned commercial forests.

Before the question on the willingness to participate in the scheme, the respondents were provided the information on the LRVT as follows. *“The management of state-owned commercial forests can be improved from the viewpoint of tourism and recreational use. This would improve the operational possibilities of nature-based tourism business. For instance, along the recreational trails that you use in your business, logging operations would be postponed or left unmanaged for a fixed time period, and regeneration felling would be replaced by management methods that maintain the forested scene (for instance, selection cuttings and small-scale clearcutting). These management decisions enhancing tourism and recreational use lead, however, to losses in timber production and the related revenue. Alternative management options could be implemented with the landscape value trading, in which the nature-based tourism firm would make a contract with Metsähallitus for providing landscape values along the trail important for the firm.”*

3.3 Analysis framework and statistical model

The associations of external and internal factors of the performance of an enterprise can be targeted by several approaches. The venture features approach emphasizes the importance of the enterprise characteristics, the entrepreneurial human capital approach attributes the level of performance to the characteristics of the entrepreneur (Lerner and Haber 2001), the resource-based theory of the firm focuses on how existing tangible and intangible resources in a firm can be exploited in a new way to achieve competitive advantage (Barney 1991; Haber and Reichel 2007; Nason and Wiklund 2018), and also a firm’s interaction with other actors (e.g., Sanchez 2004), its organizational structure or stakeholders (Haber and Reichel 2005) can be in focus.

The specialities of the service industry and the NBT as a highly knowledge-driven sector challenge the successful application of a single approach. Moreover, the known heterogeneity of the NBT sector, ranging from one-person one-service enterprises to those with tens of employees providing multiple services to customers in the NBT sector in Finland (Petäjistö and Selby 2012), results in complexity in the issues relevant to the growth of the NBT enterprise. This requires an integrated approach (e.g., Sandberg and Hofer 1987; Lerner and Haber 2001; Blackburn et al. 2013; Camisón and Forés 2015) to simultaneously explore the central factors. For instance, Lerner and Haber (2001) studied the performance factors of small Israeli tourism ventures in the framework that integrated the environmental milieu approach, the entrepreneurial human capital approach, the venture features approach, and the institutional support approach. We apply a similar integrated framework to examine the central factors affecting the growth of NBT enterprises in Finnish Lapland.

The influence of the forest environment and the characteristics of the venture and the entrepreneur on willingness to participate in LRVT and on growth were explored using ordered logit and binary logit models. Although a more detailed description of the models can be found in general textbooks (e.g., Cramer 2003), the following presentation focuses on the ordered model, which is the extension of a binary choice model to a setting of more than two choices. Importantly, the ordered model takes into account the ordered nature of the observed outcomes and, correspondingly, the ordered nature of the underlying preference scale (Greene and Hensher 2010). The ordered choice model specification is based on the following latent regression:

$$y_i^* = \beta'x_i + \varepsilon_i, i = 1, \dots, n, \quad (1)$$

in which y_i^* denotes latent utility for individual i , x_i denotes the set of variables that are thought to influence the response to the survey question, β is a vector of the utility coefficients of the observed variable x_i , and ε_i denotes a random error term. The observation mechanism results from a complete censoring of the latent dependent variable as follows:

$$\begin{aligned} y_i &= 0 \text{ if } \mu_{-1} < y_i^* \leq \mu_0, \\ y_i &= 1 \text{ if } \mu_0 < y_i^* \leq \mu_1, \\ y_i &= \dots \\ y_i &= J \text{ if } \mu_{J-1} < y_i^* \leq \mu_J, \end{aligned} \quad (2)$$

where y_i is the observed discrete outcome ($y_i = 0, 1, \dots, J$) and μ_j denotes the unknown threshold parameters. The probabilities associated with the observed outcomes are

$$\text{Prob}[y_i = j | x_i] = \text{Prob}[\varepsilon_i \leq \mu_j - \beta'x_i] - \text{Prob}[\varepsilon_i > \mu_{j-1} - \beta'x_i], j = 0, 1, \dots, J. \quad (3)$$

Assuming a standardized logistic distribution for ε_i produces the ordered logit model.

4 Results

4.1. Characteristics of NBT entrepreneurs and enterprises

The data collection resulted in 46 responses. Aiming at improving external validity and to test non-response bias, we compared the earliest 20% and the latest 20% respondents, since the latest respondents are more similar to non-respondents (Armstrong and Overton 1977). Chi-square tests for dependent and independent variables showed no statistically significant differences at 5% level.

Out of 46 respondents, all except two were company owners or entrepreneurs. On average they had worked as entrepreneurs (or in leading roles) for 16 years, but their length of entrepreneurial experience varied from 3 to 41 years. The average age of the respondents was 53 and most of them (74%) were male. The most common educational background of the respondents was secondary education (46%) followed by a university degree (17%).

The enterprises had been in business for 16 years on average. A few enterprises had been established during the last five years and one over 80 years ago. The size of the enterprises varied significantly. The largest enterprise had 70 permanent full-time employees, but about a half of the enterprises had only one or no full-time employees. The average amount of permanent full-time (part-time) employees was 4.4 (1.7). To meet the requirements of the seasonality of NBT businesses, the enterprises had temporal full-time and part-time workers, with an annual average of 2.9 and 1.5, respectively. Given these figures, the surveyed enterprises from western Lapland present a heterogeneous pattern of entrepreneurs largely similar to that of NBT enterprises in general in Finland (Petäjistö and Selby 2012).

In terms of services provided, the enterprises sold services to mainly domestic private customers. Of all domestic and foreign private and business customers, on average 13% were foreigners, and 17% were business customers. The winter season (including Christmas time, winter holidays and Easter) accounted for the majority of customers (55%), followed by the summer (30%) and autumn (15%). The enterprises also varied in terms of type of service offered to customers (Fig. 1). While guided tours and safaris were clearly the most common services offered by the NBT enterprises, many enterprises also offered accommodation and catering services, fishing trips, and transportation services. Typically, the enterprises were not restricted to a single service. On average, the NBT business on the firm level consisted of five different services.

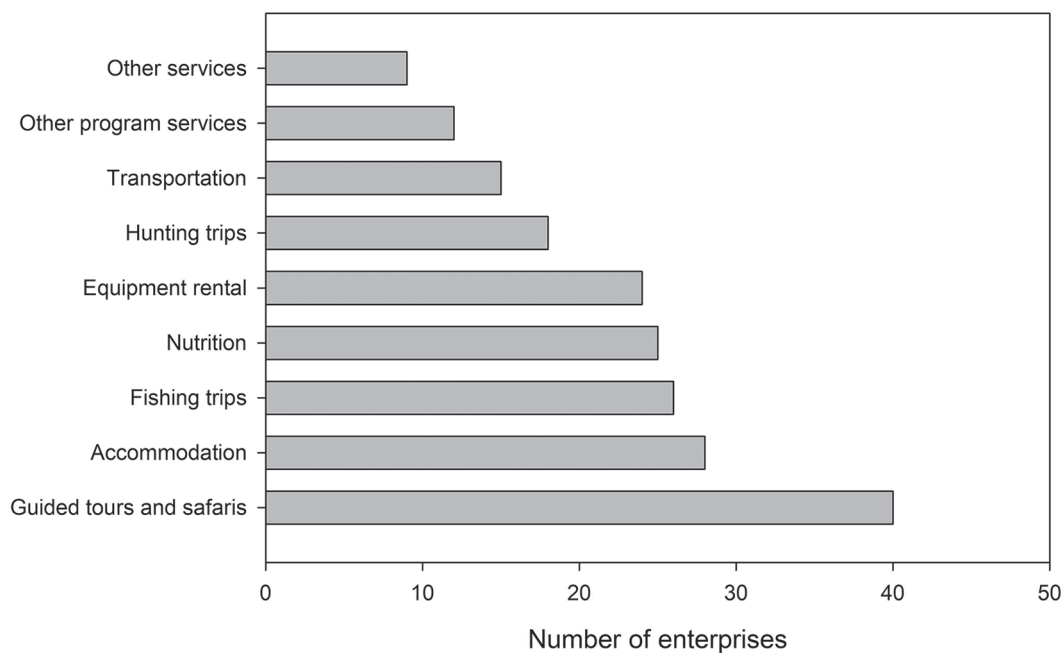


Fig 1. Services offered to customers by nature-based tourism enterprises.

The NBT enterprises quite actively used state-owned commercial forests in their business (Fig. 2). Naturally, the frequency of usage followed the intensity of the season. About 45% of the enterprises reported that they used state-owned commercial forests on a daily basis during the high seasons, i.e. winter, summer and autumn seasons. Only every sixth enterprise (15%) did not exploit state-owned commercial forests at all in their business activities. The most common activities conducted in the state-owned commercial forests were snowmobiling ($n=25$), day trips ($n=21$), snowshoeing ($n=18$), mountain/terrain/cross-country skiing ($n=17$), and canoeing ($n=16$).

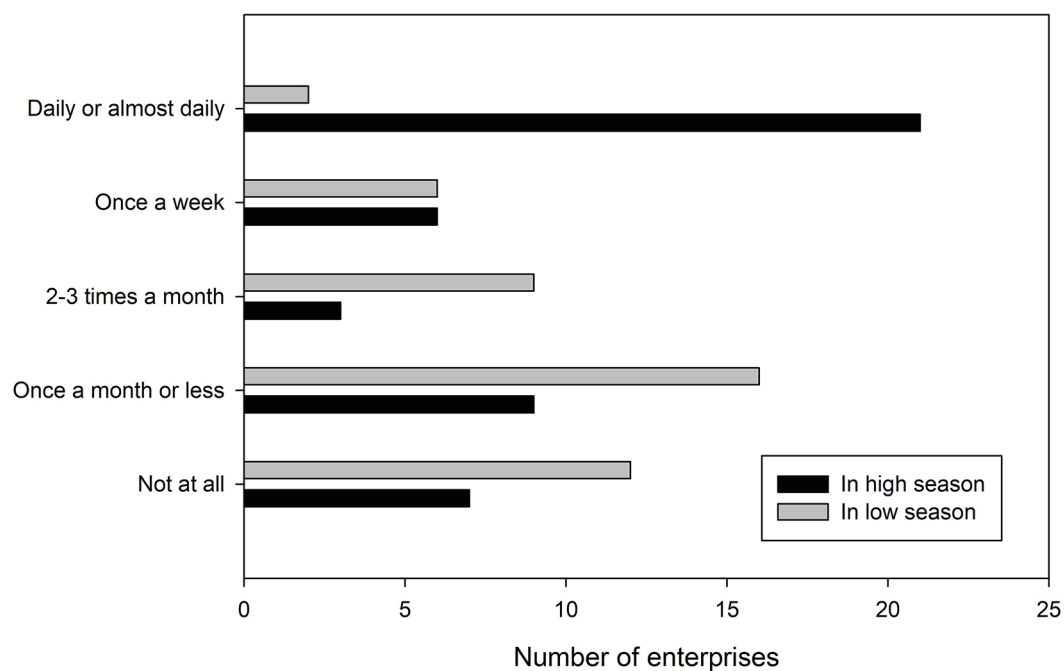


Fig 2. The use of state-owned commercial forest in nature-based tourism during the last 12 months by season.

4.2. Variables in statistical models

Table 1 presents the variables included in the models, related to the effect of the NBT enterprise-specific, entrepreneur-specific, and forest-specific aspects on the growth of the NBT enterprise and the willingness to participate in LRVT. To measure the former, two subjective non-monetary measures were introduced, accounting for both the recent past and the near future, to be used as dependent variables in two separate models.

The first dependent variable of ordered logit model refers to the stated change of turnover during the previous five years (*PGrowth*). This was based on the answers on a three-level ordinal scale as to whether the turnover of the enterprise had increased, stayed the same, or decreased during the last five years.

The second dependent variable, the expected change in turnover, was based on the entrepreneurs' statements regarding how they expected turnover to change over the next five years (*EGrowth*). The answers, on a four-level ordinal scale (1 = increase, 2 = no change, 3 = decrease,

Table 1. Descriptions of dependent and independent variables in the models (n=46).

Variable name	Description	Mean	SD
Dependent variables			
<i>PGrowth</i>	Change in turnover during last five years: 0=decreased (n=7), 1=unchanged (n=15), 2=increased (n=24)	1.4	0.7
<i>EGrowth</i>	Expected change in turnover during next five years: 1=increase (n=27), 0=otherwise (n=19)	0.6	0.5
<i>Participate</i>	Company's willingness to participate in potential scenery trading: 0=no (n=29), 1=maybe (n=12), 2=yes (n=5)	0.5	0.7
Independent variables			
1) Characteristics of enterprise			
<i>Turnover</i>	Company's turnover during the last 12 months: 1000 euros	282.7	349.7
<i>Services</i>	Number of different services that company offers: 1–10 services	5.2	2.2
<i>Program%</i>	Share of program services of the turnover: 0–100%	12.2	5.9
<i>Accommodation</i>	Company offers accommodation services: 1=yes (n=28), 0=no (n=18)	0.6	0.5
<i>Bcustomer%</i>	The share of business customers of the total number of customers: 0–100%	17.3	4.6
2) Characteristics of entrepreneur			
<i>Experience</i>	Entrepreneur's experience as an entrepreneur: years	16.2	9.7
<i>Risk-taker</i>	Entrepreneur's attitude to risk: 1=risk-taker (n=27), 0=risk-averse (n=19)	0.6	0.5
<i>Newbusiness</i>	Entrepreneur's intention to develop new NBT business: 1=yes (n=21), 0=no (n=25)	0.5	0.5
3) Use of state-owned commercial forests and activities encountered in forests			
<i>Usehigh</i>	How often company uses state-owned commercial forest during the high season: 1–5, from not at all to daily or almost daily	3.5	1.6
<i>Hiking</i>	Company uses state-owned commercial forest for hiking camping (overnight) activities: 1=yes (n=11), 0=no (n=35)	0.2	0.4
<i>Snowmobiling</i>	Company uses state-owned commercial forest for snowmobiling activities: 1=yes (n=25), 0=no (n=21)	0.5	0.5
<i>Nordicwalking</i>	Company uses state-owned commercial forest for Nordic walking activities: 1=yes (n=18), 0=no (n=28)	0.4	0.5
<i>Cross-country</i>	Company uses state-owned commercial forest for cross-country skiing activities: 1=yes (n=14), 0=no (n=32)	0.3	0.5
<i>Fishing</i>	Company uses state-owned commercial forest for fishing activities: 1=yes (n=17), 0=no (n=29)	0.4	0.5
<i>Sledding</i>	Company uses state-owned commercial forest for sledding activities: 1=yes (n=7), 0=no (n=39)	0.2	0.4

4 = the company will go out of business), were recoded into two categories due to the low number of observations in low-turnover Categories 3 and 4. Thus, the dependent variable in the binary logit model had a value of 1 if the entrepreneur expected turnover to increase.

The factors affecting the willingness to participate in a potential scenery trading scheme described in the survey questionnaire are elaborated using the ordered logit model. The third dependent variable (*Participate*) is based on the answers on a three-level ordinal scale (2 = yes, 1 = maybe, 0 = no). A majority (63%) of the respondents were not willing to participate in the proposed new trading mechanism, whereas 26% stated that they may participate, and 11% stated they were willing to participate.

The characteristics of the enterprises were examined using five independent variables. First, to account for the size of business activities, the original question which included eight categories for turnover (coded as 1 = less than 20 000, 2 = 20 000–49 999, and so on until 8 = 1 million euros or more) was recoded using the midpoint incomes of each category, with the exception of the highest category that was recoded as one million euros (*Turnover*). Second, regarding services, the total number of services offered to customers was counted on the basis of the enterprises' listings of services offered to customers (*Services*). The share of programme services of the turnover described the enterprise as a service provider (*Program%*). Third, to describe the nature of the enterprises, the variables included the share of business customers of the total number of customers (*Bcustomers%*), and the enterprises offering accommodation services (*Accommodation*) were separated from the other enterprises using a dummy variable, because the nature of business offering accommodation differs from other NBT business activities with respect to the degree of dependence on landscape.

The characteristics of the entrepreneurs were considered using three variables. First, experience as an entrepreneur in years (*Experience*) served as a proxy for the business skills of the entrepreneur. Entrepreneurial attitude was described in terms of risk-taking behaviour and opportunity recognition. For this purpose, the respondents' willingness to take risks to develop a new business, expressed on a five-point Likert scale (from 1 = strongly agree to 5 = strongly disagree), was recoded as a dummy that took the value of one for Categories 1 and 2 (*Risk-taker*). Finally, opportunity recognition was measured based on the entrepreneurs' intention to develop a new NBT business in the near future (1 = no, 2 = yes, 3 = I don't know) and recoded by taking a value of 1 for Category 2 (*Newbusiness*). Regarding the reliability of entrepreneur-related variables that are based on statements created to measure the same construct, the correlations between two risk-statements (0.41) and between risk and business development statements (0.33) as well as between two business development statements (0.43) were statistically significant at 5% level.

Regarding the role of state-owned commercial forest areas for the NBT enterprises, two types of explanatory variables described the intensity and purpose for which the enterprises utilize these forests in their business activities. Regarding intensity, the use of state-owned commercial forests during the high season (*Usehigh*) was measured on a five-point scale (5 = daily or almost daily, 4 = once a week, 3 = 2–3 times a month, 2 = once a month or less, 1 = not at all).

The business activities conducted in the state-owned commercial forests were measured on a binary scale. Without prior expectations of the impact of specific activities, the activities included in the model were selected on the basis of rigorous testing of all the 27 activities listed in the survey, including only statistically significant activities (hiking and camping, snowmobiling, Nordic walking, cross-country skiing, fishing, sledding) in the models analysing the willingness to participate in LRVT and the past and expected growth of the enterprise.

Due to the small sample size we could not include all explanatory variables at the same time in one model. We analysed their effects separately and systematically. When analysing the role of state-owned forests, we also included at least one variable related to the characteristics of the enterprise (*Turnover* and/or *Accommodation*) and one variable related to the characteristics of the

entrepreneur (*Risk-taker* or *Newbusiness*) to capture these aspects. We tested all the variables and selected the variables to be included based on their statistical performance. The qualitative effects of the variables *Risk-taker* and *Newbusiness* on a particular dependent variable were always similar, thus only one of them was present in models on forest use and participation in LRV each time.

4.3. Factors affecting past and expected growth

Table 2 depicts the results of the logit models, focusing on the simultaneous effect of enterprise characteristics, entrepreneur characteristics, and state-owned commercial forests on the growth of the NBT business, using the stated change in turnover of the previous five years (Model 1) and the expected growth of the next five years (Model 2) as dependent variables.

First, active use of state-owned commercial forests during the high season (*Usehigh*) decreased the likelihood of reporting an increase in turnover over the previous five years (Model 1). The enterprises that used state-owned commercial forests also less likely expected an increase in their turnover in the next five years (Model 2). These results indicate that the enterprises using actively state-owned commercial forest areas during high season had performed worse than the other enterprises. In particular, offering snowmobiling (*Snowmobiling*) activities in state-owned commercial forests decreased the likelihood of having seen a positive change in turnover in the previous five years. This effect was not statistically significant with respect to the expected increase in turnover. In contrast, offering overnight hiking (*Hiking*) services increased the likelihood of having had and expecting to have a positive effect on turnover.

Second, as regards enterprise characteristics, the results of the ordered logit model (Model 1) explaining the change in turnover during the previous five years (*PGrowth*) showed that enterprises with a higher turnover measured in monetary terms (*Turnover*) were more likely to have experienced an increase in turnover. The same was true for the near future (Model 2): larger-sized firms were more likely expect an increase in turnover in the future.

Third, in relation to past change in turnover, the entrepreneurs identified as risk-takers (*Risk-taker*) were less likely to report an increase in their turnover over the previous five years (Model 1), thus they had actually performed worse than non-risk-takers. However, those willing to take risks when developing their new business more likely expected to see an increase in turnover in the next five years (Model 2).

Table 2. Factors explaining the past and expected growth of nature-based tourist enterprises.

Explanatory variable	Model 1 (PGrowth)			Model 2 (EGrowth)		
	Coefficient	Standard error	p-value	Coefficient	Standard error	p-value
<i>Constant</i>	0.80119	0.76993	0.2981	−5.03746	1.98556	0.0112
<i>Turnover</i>	0.00612	0.00199	0.0021	0.00454	0.00235	0.0530
<i>Risk-taker</i>	−1.48997	0.53291	0.0052	3.72959	1.20213	0.0019
<i>Usehigh</i>	−0.33300	0.17625	0.0588	−0.93256	0.43518	0.0321
<i>Hiking</i>	3.21506	0.93994	0.0006	2.25328	1.26496	0.0749
<i>Snowmobiling</i>	−1.23427	0.54133	0.0226	−0.65759	0.91770	0.4736
Threshold parameter						
<i>Mu(1)</i>	2.07667	0.51873	0.0001			
Log likelihood	−24.17877			−17.92757		
Pseudo R-squared	0.46979			0.42513		
AIC	62.4			47.9		

Table 3. Factors explaining respondents' willingness to participate in landscape and recreational values trading (LRVT). Y = participate (1 = yes, 0 = no)

Explanatory variable	Coefficient	Standard error	p-value
<i>Constant</i>	0.32067	0.66290	0.6286
<i>Turnover</i>	0.00537	0.00177	0.0025
<i>Newbusiness</i>	3.18345	1.24617	0.0106
<i>Accommodation</i>	−3.41820	1.27322	0.0073
<i>Program%</i>	−0.26572	0.10421	0.0108
<i>Hiking camping</i>	−4.19251	1.57611	0.0078
<i>Cross-country skiing</i>	−3.10572	1.33145	0.0197
<i>Nordic walking</i>	8.22564	3.11269	0.0082
<i>Fishing</i>	4.93116	1.83684	0.0073
<i>Sledding</i>	2.26629	1.23403	0.0663
Threshold parameter			
<i>Mu(1)</i>	3.07900	1.06397	0.0038
Log likelihood	−15.01020		
Pseudo R-squared	0.63028		
AIC	52.0		

4.4. Willingness to participate in potential landscape and recreational values trading

Table 3 presents the ordered logit model results regarding the NBT entrepreneurs' view for the landscape and recreational values trading which reflects the role and importance of state-owned commercial forests for an enterprise as an asset. The model accounted for the great variability of enterprises in terms of size, entrepreneurial characteristics, and offered services, specified after an intensive search for statistically significant explanatory variables for willingness to participate in the LRVT.

The results show the positive effect of the size of the enterprise, in terms of monetary turnover, (*Turnover*) and the entrepreneur's intention to develop new business, (*Newbusiness*) on the likelihood of being willing to participate in the trading scheme. On the other hand, offering accommodation services (*Accommodation*) or programme services constituting a high share of turnover (*Program%*) decreased the likelihood of being willing to participate. Willingness to participate also depended on activities conducted in the state-owned commercial forests: the enterprises offering overnight hiking or cross-country skiing activities were more likely to be reluctant to participate, while those offering Nordic walking, fishing, and sledding activities were more likely to be willing to participate in the LRVT scheme.

4.5. Further analysis of enterprise and entrepreneur characteristics

Recall that we were not able to include all potential explanatory variables in the same model due the small size of sample. Therefore we conducted further analysis to evaluate the robustness of our results. Table 4 presents the results of the logit models, elaborating in more detail on how the characteristics of enterprises and entrepreneurs are associated with growth, using the stated change in turnover of the previous five years (Model 3) and the expected growth of the next five years (Model 4) as dependent variables. Notice that the explanatory variables *Turnover* and *Risk-taker* are the same as in Model 1 and 2.

Table 4. Characteristics of enterprises and entrepreneurs explaining the growth and expected growth of nature-based tourist enterprises.

Explanatory variable	Model 3 (PGrowth)			Model 4 (EGrowth)		
	Coefficient	Standard error	p-value	Coefficient	Standard error	p-value
<i>Constant</i>	3.64450	1.36492	0.0076	1.95737	3.14537	0.5337
<i>Turnover</i>	0.00394	0.00125	0.0016	0.00327	0.00201	0.1032
<i>Accommodation</i>	0.94949	0.49871	0.0569	1.90584	1.19664	0.1112
<i>Services</i>	-0.16161	0.10400	0.1202	-0.11060	0.24367	0.6499
<i>Bcustomer%</i>	-0.05790	0.05080	0.2544	-0.29196	0.14835	0.0491
<i>Experience</i>	-0.05848	0.02374	0.0138	0.00911	0.05708	0.8732
<i>Risk-taker</i>	-1.23918	0.53421	0.0204	1.82889	1.12739	0.1048
<i>Newbusiness</i>	-0.07518	0.44111	0.8647	2.86871	1.09677	0.0089
Threshold parameter						
<i>Mu(1)</i>	1.58886	0.36391	<0.0001			
Log likelihood	-30.28370			-15.27105		
Pseudo R-squared	0.33591			0.51032		
AIC	78.6			46.5		

The results of the ordered logit model (Model 3) explaining the change in turnover in the previous five years (*PGrowth*) showed that large turnover in monetary terms (*Turnover*) increased the likelihood of reporting an increased turnover, as did offering accommodation services (*Accommodation*). However, as the increasing share of services offered to business customers (*Bcustomer%*) had no statistically significant effect at the 10% risk level, customer type made no difference to business performance. Similarly, the effect of offering many services (*Services*) on the probability of increased turnover in the previous five years was statistically insignificant.

Regarding the expected change in turnover in the next five years (*EGrowth*) in Model 4, only offering accommodation services (*Accommodation*) and the increasing share of services offered to business customers (*Bcustomer%*) had a statistically significant effect. Regarding the effect of the characteristics of the entrepreneur, Model 3 indicated that an entrepreneur's positive attitude to risk-taking when developing new business (*Risk-taker*), as well as business experience (*Experience*), was negatively associated with reported increase in turnover in the previous five years (*PGrowth*). However, the results of Model 4 exploring the expected increase in turnover in the next five years (*EGrowth*) differed from those of Model 3. In particular, the entrepreneur's positive attitude to risk taking (*Risk-taker*) was positively associated with expected performance as well as the recognition of opportunities (*Newbusiness*).

Regarding the robustness of the results, three points are worth of emphasising. First, *Turnover* had qualitatively the same effect in Model 1 and 3 as well as in Model 2 and 4. Second, regarding positive attitude to risk taking the results of Model 1 and 2 were similar to results of Models 3 and 4. Third, the coefficients of *Risk-taker* and *Newbusiness* had the same signs in Model 3 and 4 as was expected. Including both these variables in the model may be subject to a multicollinearity problem, however. Despite the small sample size, the findings support the conclusion on the robustness of the results.

5 Discussion and conclusions

This paper aimed at exploring the role of firm features and the significance of commercial state-owned forest areas in the growth of NBT enterprises and in the NBT enterprises' willingness to pay for enhanced conservation of landscape and recreational values in timber production forests. The sampled enterprises used the state-owned commercial forests as their operational environment in western Finnish Lapland. The small sample may not fully cover the NBT industry in Lapland, and generalizing the results to the industry level in this or other regions may not be justified. However, there is no apparent reason why the characteristics of the operating environment would differ from other parts of Finnish Lapland or other regions that actively use state lands for tourism. The NBT enterprises operating in the study area, western Lapland, are on average large and operate full time, in contrast to the NBT sector in other parts of Finland. Thus, this paper can be seen as an exploratory study of the role of state-owned commercial forests in the NBT industry in northern Finland, and it can be followed by a more detailed longitudinal industry-level examination of how the NBT firms have performed in this area during the previous decade. While a small sample size allowed for producing robust results, the number of explanatory variables in the models remained limited and we refrained from analysing the potential interaction effects of, for instance, enterprise characteristics and the use of state-owned commercial forests or specific activities offered to customers.

The importance of state-owned commercial forests for an NBT business depends greatly on the activities that the enterprises provide to their customers. The enterprises that used commercial state-owned forests less intensively for business activities had performed better than average, especially those that provided overnight hiking activities. Hiking services are largely provided in national parks or other protected areas. The result reflects the fact that, in the sample, the increase in turnover varied between enterprises depending on the different services they provided. In general, for motorized activities such as snowmobiling, for example, the role of the quality of the landscape and environment is lower than for non-motorized activities such as hiking. Consistent with earlier research by Lerner and Haber (2001), our results indicate that providing the tourist customer with a bundle of services does not necessarily guarantee an increase in turnover.

Low performance related to a specific service provision to customers may indicate that enterprises using state-owned commercial forests in their business had suffered due to some land-use restrictions. These aspects were pointed out in the open comment field of the survey. For instance, activities such as snowmobiling are only allowed on marked trails, and tourism enterprises must obtain permission from Metsähallitus to use state-owned forests for their activities. The results probably also reflect the fact that the market for NBT products has changed. The demand for some dominant activities such as snow-mobiling has decreased and the demand for services has become more diversified during the past ten years. Therefore, services such as guided nature activities, slow-tourism and relaxation oriented products often linked to use of national parks have been developed.

The investigation of factors associated with the business performance was based on two growth measures: the change in turnover over the previous five years and the expected change in the next five years. While the former follows the approach used in previous studies focusing mainly on past performance (Lerner and Haber 2001; Nybakk and Hansen 2008; Hallak et al. 2012), the latter is a new approach. Interestingly, it enables investigation of whether the same factors explain both the experienced and the expected change in turnover. Our result weakly indicates that previous experience in entrepreneurship, positive attitude towards risk-taking, and opportunity recognition negatively may have affected past performance, but positively affect expected performance.

Our results provide new information in relation to previous literature (e.g., Wiklund and Shepherd 2005; Nybakk and Hansen 2008) by showing that nature-based tourist enterprises oper-

ating in western Finnish Lapland have failed to achieve better performance through risk-taking. Large enterprises and enterprises that offer traditional accommodation services have performed better while relatively young and small-sized enterprises that are typically risk-taking and innovative have faced difficulties in developing their business over the previous five years.

Regarding entrepreneur characteristics, it is not surprising that respondents with a positive attitude to risk-taking for developing new business expect their enterprise's turnover to grow, but the result concerning a negative relationship between experience and past performance was somewhat unexpected. Lerner and Haber (2001) also found no correlation between former entrepreneurial experience and performance. Consistent with previous literature (Zahra 1993), one potential explanation for this negative relationship is that many of the studied enterprises had already been in operation for quite a long time (i.e. the entrepreneurs had considerable experience), and therefore, these entrepreneurs may not have been growth-oriented but perhaps preferred other aspects of performance, such as profitability or preserving the existence of the enterprise.

When interpreting our results, it is important to notice that the economic downturn after 2008 has affected the NBT sector in Finland, and small enterprises in particular faced challenges in profitability. Low performance may also indicate the overall changes in the tourism business in Lapland, especially reduced incentive and business travel, increased individual travel, and the availability of business development possibilities for new innovative business ideas. However, the development of the tourism sector is slow, and new enterprises and business ideas in the development stage need time and appropriate timing to become profitable (Konu et al. 2017). Hence our results may have underestimated the performance of NBT enterprises to some extent due the specific time period considered in this study. The current market situation is better. The amount of air-passangers arriving to Lapland grew 25% between 2007 and 2017. The growth is now expected to continue and the share of international visitors is expected to reach 50% of all visits by 2023. This suggests that the demand also for nature areas will grow as the capacity of protected areas has its limits due to their important conservation functions. (Lapland tourism facts... 2018) A strong growth phase in NBT in Lapland may attract more profit-oriented entrepreneurs in the field.

Regarding willingness to participate in the proposed LRVT scheme, which aims at securing good environmental quality of forests for nature-oriented business, the eagerness of entrepreneurs who recognise business opportunities is not surprising. They may be generally more innovative, i.e., more open to new areas, ideas and activities, as reported by Nybakk and Hansen (2008). According to our results, these are the entrepreneurs whose businesses are the most dependent on state-owned commercial forest areas being managed in a way that supports their business activities (see Mäntymaa et al. 2019). The result that larger enterprises are more likely willing to participate in LRVT, a newly-proposed system, is probably partly explained by the fact that the entrepreneurs have different abilities to pay. In general, the low share of entrepreneurs willing to economically contribute to landscape conservation in state-owned commercial forest may link to the large share of new or small size entrepreneurs in the sector, but also to the opportunity to negotiate forest management within the state's participatory natural resource planning process that may also decrease entrepreneurs' interest to contribute. The enterprises offering accommodation were less likely willing to participate, reflecting their somewhat lower dependence on the environmental quality of forests in their business.

In conclusion, nature-based tourism enterprises are heterogeneous in their size, type of services and demands for their operational environment, as well as in their objectives and motivations for running their businesses. One factor that potentially limits the development and growth of the NBT industry may be the entrepreneurs' positive perception of the current state of business and lifestyle entrepreneurship, which are common features in Nordic studies (e.g., Lundmark and Muller 2010; Petäjistö and Selby 2014). Micro-scale and small-scale entrepreneurship is globally

typical in NBT business (e.g., Hall and Boyd 2005), and this indicates that the sector is developing, and that many NBT enterprises are still at the beginning stage of their business (Stensland et al. 2014). In the future, the growth of international visitors is expected to increase the demand for NBT services, which will also be reflected in the use of forest environments. Although this development has the potential to promote business possibilities for NBT enterprises, the success of the tourism industry will require smooth co-operation between landowners, including the state-owned enterprise Metsähallitus and NBT enterprises.

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